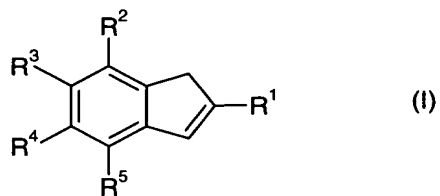
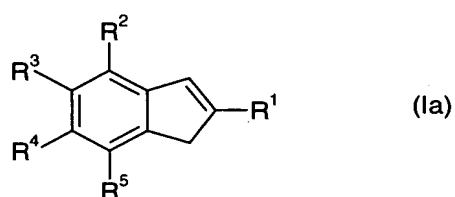


Claims

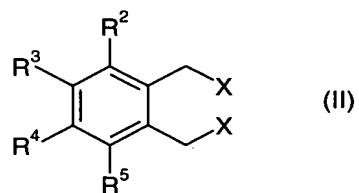
1. A process for preparing substituted indenenes of the formula (I)



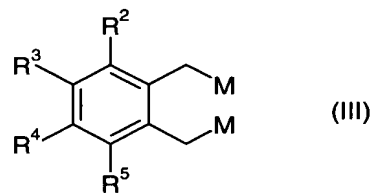
10 and their double bond isomers of the formula (Ia)



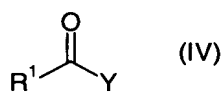
which comprises converting a compound of the formula (II)



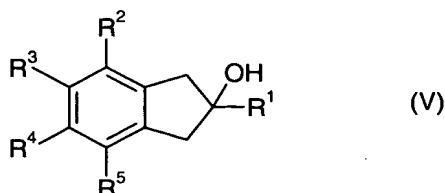
into a bisorganometallic compound of the formula (III)



30 and reacting this with a compound of the formula (IV)



to give an indanol of the formula (V)



and converting this into an indene of the formula (I) or (Ia) by elimination of water,
 10 where

R¹ is a C₁-C₄₀-hydrocarbon radical,

R² is a substituted or unsubstituted C₆-C₄₀-aryl radical, where the substituents of this aryl radical are hydrocarbon radicals which contain no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups,

15 R³- R⁵ are identical or different and are each hydrogen or a C₁-C₄₀-hydrocarbon radical which contains no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups, or R² and R³ together form a cyclic system which contains no hydrogen atoms in α positions relative to aromatic radicals or vinylic groups, or R² together with R³ forms a cyclic system,

20 X is a halogen atom,

M is lithium, sodium, potassium or magnesium monohalide or two radicals M together represent one magnesium atom, and

Y is a nucleophilic leaving group.

25 2. A process as claimed in claim 1, wherein

R¹ is a linear, branched or cyclic C₁-C₁₀-alkyl radical,

30 R² is a substituted or unsubstituted C₆-C₁₈-aryl radical selected from the group consisting of phenyl, 1-naphthyl, phenanthryl, 3-tert-butylphenyl, 4-tert-butylphenyl, 3,5-di(tert-butyl)phenyl, 4,4'-biphenyl and 3,5-di(phenyl)phenyl,

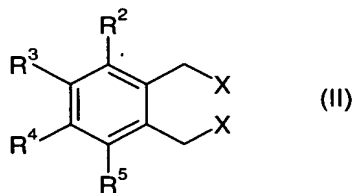
R³- R⁵ are each hydrogen,

X is a chlorine atom,

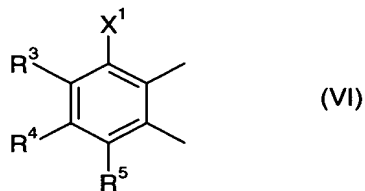
M is magnesium monochloride and

35 Y is OR⁶, where R⁶ is a linear, branched or cyclic C₁-C₁₀-alkyl radical.

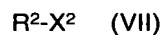
3. A process as claimed in claim 1 or 2, wherein the compound of the formula (II)



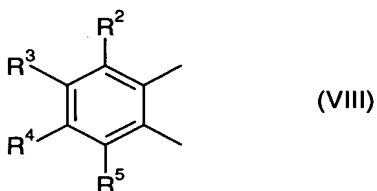
is prepared by coupling of a compound of the formula (VI)



15 with a compound of the formula (VII)



20 in the presence of a transition metal catalyst, with either the compound of the formula (VI) or the compound of the formula (VII) firstly being converted into a corresponding organometallic compound, and the coupling product of the formula (VIII)



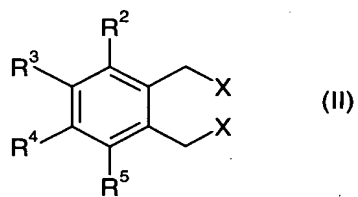
is reacted with a halogenating agent to give a compound of the formula (II),

where

30 X^1 is halogen, and
 X^2 is halogen.

4. A compound of the formula (II)

5



where R², R³, R⁴, R⁵ and X are as defined in claim 1 or 2.

10

5. The use of a compound of the formula (II) as claimed in claim 4 as starting material for the synthesis of substituted indenenes.